Cabinetmaker

Guide to Course Content

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Recognition:
To promote transparency and consistency, portions of this document has been adapted from the 2021 Cabinetmaker Red Seal Occupational Standard (Employment and Social Development Canada).

A complete version of the Occupational Standard can be found at www.red-seal.ca

STRUCTURE OF THE GUIDE TO COURSE CONTENT

To facilitate understanding of the occupation, this guide to course content contains the following sections:

Task Matrix: a chart which outlines graphically the major work activities, tasks and sub-tasks of this standard detailing the essential skills and the level of training where the content is covered. The Task Matrix is broken down into the following:

Major Work Activity: the largest division within the standard that is comprised of a distinct set of trade activities.

Task: distinct actions that describe the activities within a major work activity.

Sub-task: distinct actions that describe the activities within a task.

Training Profile Chart: a chart which outlines the model for technical training.

Technical Training Course Content for the Carpenter trade: a chart which outlines the model for technical training sequencing.

TRAINING REQUIREMENTS FOR THE CABINETMAKER TRADE

To graduate from each level of the apprenticeship program, an apprentice must successfully complete the required technical training and compile enough on-the-job experience to total at least 1600 hours each year. Total trade time required is 6400 hours and at least 4 years in the trade.

There are four levels of technical training delivered by NAIT in Edmonton, Alberta and by SAIT in Calgary, Alberta:

Level one:	8 weeks
Level two:	8 weeks
Level three:	8 weeks
Level four:	8 weeks

The information contained in this pamphlet serves as a guide for employers and apprentices. The pamphlet briefly summarizes the training delivered at each level of apprenticeship training. An apprentice spends approximately 15% of the apprenticeship term in a technical training institute learning the technical and theoretical aspects of the trade. The hours and percentages of technical and practical training may vary according to class needs and progress.

Entrance Requirements for Apprenticeship Training

Your grade twelve transcripts (with no modified classes) or GED 12 is your guarantee that you meet the educational entrance requirements for apprenticeship in Saskatchewan. In fact, employers prefer and recommend apprentices who have completed high school. This ensures the individual has all of the necessary skills required to successfully complete the apprenticeship program, and receive journeyperson certification.

Individuals with “modified” or “general” classes in math or science do not meet our entry requirements. These individuals are required to take an entrance assessment prescribed by the SATCC.

English is the language of instruction in all apprenticeship programs and is the common language for business in Saskatchewan. Before admission, all apprentices and/or “upgraders” must be able to understand and communicate in the English language.

Designated Trade Name	**Math Credit** at the Indicated Grade Level❶	**Science Credit** at Grade Level
Cabinetmaker	Grade 10	Grade 10

❶ - (One of the following) WA – Workplace and Apprenticeship; or F – Foundations; or P – Pre-calculus, or a Math at the indicated grade level (Modified and General Math credits are not acceptable.).

*Applicants who have graduated in advance of 2015-2016, or who do not have access to the revised Science curricula will require a Science at the minimum grade level indicated by trade.

For information about high school curriculum, including Math and Science course names, please see: http://www.curriculum.gov.sk.ca/#

Individuals not meeting the entrance requirements will be subject to an assessment and any required training.

CABINETMAKER TASK MATRIX CHART

This chart outlines the major work activities, tasks and sub-tasks from the 2021 Red Seal Occupational Standard.

A - Performs common occupational skills — 12%

A-1 Performs safety-related functions	1.01 Maintains safe work environment	1.02 Uses personal protective equipment (PPE) and safety equipment				
A-2 Maintains tools and equipment	2.01 Maintains hand, portable power and pneumatic tools and equipment	2.02 Maintains stationary power tools	2.03 Maintains automated and computer numerical control (CNC) equipment	2.04 Maintains finishing equipment		
A-3 Organizes work	3.01 Interprets prints and drawings	3.02 Plans project	3.03 Creates design	3.04 Performs layout of cabinets, furniture and architectural millwork		
A-4 Performs routine work practices	4.01 Handles materials, supplies and products	4.02 Fabricates jigs and templates	4.03 Builds prototypes	4.04 Dry-fits components	4.05 Selects hardware	
	4.06 Selects adhesive and fasteners					
A-5 Uses communication techniques	A-5.01 Uses communication techniques	A-5.02 Uses mentoring techniques				

B – Performs machining 17%

B-6 Machines components using stationary and portable power tools	6.01 Breaks out solid wood	6.02 Dresses solid wood	6.03 Shapes solid wood	6.04 Breaks out sheet material	6.05 Machines sheet materials
	6.06 Machines joints	6.07 Performs preliminary sanding			
B-7 Machines components using automated and CNC equipment	7.01 Sets up automated and CNC equipment	7.02 Operates automated and CNC equipment			

C – Performs forming and laminating 11%

C-8 Creates curved components using wood and composite materials	8.01 Builds forms	8.02 Performs curved laminating	8.03 Steam forms wood
C-9 Laminates wood and composite materials	9.01 Arranges materials for laminating	9.02 Applies adhesive for laminating	9.03 Clamps pieces together

D – Installs veneers and laminates

11%

D-10 Applies veneers	10.01 Selects veneers	10.02 Prepares veneers and substrates	10.03 Adheres to veneers to substrates	10.04 Performs final clean-up of veneered panels
D-11 Applies laminate sheets	11.01 Selects laminate sheets	11.02 Prepares laminate sheets and substrate	11.03 Adheres laminate sheets to substrate	11.04 Performs final clean-up of laminated sheets

E – Performs shop assembly

17%

E-12 Assembles cabinets and furniture	12.01 Assembles cabinet components	12.02 Assembles furniture components	12.03 Combines cabinet and furniture components into final assemblies
E-13 Assembles architectural millwork products	13.01 Assembles architectural millwork components in shop	13.02 Assembles architectural fixtures in shop	

F – Performs finishing

11%

F-14 Prepares surface for finishing	14.01 Repairs imperfections	14.02 Prepares parts for finishing	14.03 Performs final sanding of surfaces
F-15 Finishes wood product	15.01 Prepares finishing materials	15.02 Applies finishing material manually	15.03 Sprays on finishing material

G – Performs on-site assembly and installation

13%

G-16 Modifies products to site conditions	16.01 Cuts access holes on site	16.02 Scribes product to fit on site
G-17 Installs cabinets and countertops	17.01 Performs final on-site assembly and fastening of cabinets and countertops	17.02 Finalizes installation of cabinets and countertops

H – Performs specialized operations

8%

H-19 Builds stairs and balustrades	**19.01 Lays out stairs and their components**	**19.02 Machines stair and balustrade components**	**19.03 Assembles stairs and balustrades**	**19.04 Installs stairs and balustrades**
H-20 Works with solid surface material and custom countertops	**20.01 Breaks out materials**	**20.02 Fabricates solid surface material**	**20.03 Installs solid surface material**	
H-21 Creates decorative woodwork	**21.01 Performs marquetry**	**21.02 Performs carving**	**21.03 Performs woodturning**	
H-22 Restores woodwork	**22.01 Repairs wood for restoration purposes**	**22.02 Refinishes woodwork**		

TRAINING PROFILE CHART

This Training Profile Chart represents Alberta's NAIT and SAIT technical training at the topic level.

Level One
Standard Workplace safety, orientation, material and joinery
Tools, Machines and Equipment
Shop Drawing
Trade Math

Level Two
Materials and Hardware
Equipment, Machine Use, Assembly and Procedures
Wood finishing
Drawing Interpretation
Material Calculations

Level Three
Materials Packaging, Shipping and Stairs
Design Theory and Shop Procedures
Machines and Equipment Procedures
Commercial Drawings
Stair and Industry Related Calculations

Level Four
Business Practices and Workplace Coaching Skills
Wood Finishing
Drawing Interpretation and Shop Drawings
Construction of Industry Project
Job Costing and Material Estimating

TECHNICAL TRAINING COURSE CONTENT

This chart outlines the model for Alberta's NAIT and SAIT for the harmonized level of training, a cross reference to the Red Seal Occupational Standard (RSOS) apprenticeship technical training sequencing, at the learning outcome level, is provided.

Level One 8 weeks

Standard Workplace Safety, Orientation, Material and Joinery

- Safety Legislation, Regulations & Industry Policy in the Trades
- Climbing, Lifting, Rigging and Hoisting
- Hazardous Materials and Fire Protection
- Apprenticeship Training Program
- The Cabinetmaker Trade
- The Nature and Properties of Wood
- Primary Processing of Hard and Soft Wood
- Manufactured Sheet and Panel Products
- Adhesives
- Fasteners
- Abrasives
- Principles of Wood Joinery
- Solid Laminated Panels
- Material Handling

Tools, Machines and Equipment

- Measuring and Layout Tools
- Hand Planes
- Scrapers, Chisels, Gouges and Knives
- Assembly, Dismantling and Clamping Tools
- Hand Drills and Saws
- Portable Power Tools
- Pneumatic Tools and Fasteners
- Table, Panel and Computer Numerical Control (CNC) Saws
- Tooling for Portable and Stationary Equipment
- Band Saws
- Drill Presses
- Jointers and Thickness Planers
- Explosive Actuated Tools

Shop Drawing

- Drafting Basics
- Orthographic Drawings
- Shop Drawings
- Shop Drawing Interpretation and Cutting Lists
- Orientation to Computers and Computer Aided Design (CAD)
- Residential Drawing Interpretation

Trade Math

- Math Concepts
- Area, Perimeter, Board Feet and Volumes
- Ratio, Proportion and Percentage

Level Two 8 weeks

Materials and Hardware

- Apply Adhesives
- Millwork Hardware
- Plastic Laminates and Solid Surface Materials
- Moulding and Millwork Products
- Veneer

Equipment, Machine Use, Assembly and Procedures

- Mortising and Tenoning Machines
- Profiling Machines and Auto-Feed Devices
- Stationary Sanding Machines
- Dowel Boring and Insertion Machines
- Breakout Solid and Sheet Materials
- Machining and Assembly of Case Work
- Doors, Frames and Trim
- Introduction to CNC Machinery
- Process for Operation of CNC Equipment

Wood Finishing

- Wood Finishing Safety
- Prepare Surfaces for Finishing
- Application of Finishing Materials

Drawing Interpretation

- Drawing Standards
- Commercial Drawing Interpretation
- Free-Hand Sketches
- Pictorial Drawing and Sketching
- Kitchen and Casework Drawings
- Material Cutting Lists and Procedural Plans
- CAD Shop Drawing
- Digital Renderings

Material Calculations

- Cut List Calculations
- Bulk Material Requirements
- Material Estimate

Level Three 8 weeks

Materials, Packaging, Shipping and Stairs

- Plastics in Cabinetmaking
- Glass in Cabinetmaking
- Metals in Cabinetmaking
- Packaging and Shipping of Millwork
- Correct Deficiencies
- Stair Design and Codes
- Stair Construction
- Stair and Handrail Installation

Design Theory and Shop Procedures

- Principles and Elements of Design
- Ergonomics
- Joinery Techniques
- Curved Elements in Wood
- Furniture Design and Architectural Terms
- Wall and Ceiling Treatments
- Custom Veneer Matches and Production Applications
- Prototypes
- Dry Fit

Machines and Equipment Procedures

- Custom Shaper and CNC Machine Production Applications
- Moulders
- Specialized Industrial Machines
- Wood Turning
- Advanced Table Saw Applications and Procedures
- CNC Manufacturing

Commercial Drawings

- Drawing Interpretation Principles
- Plans, Elevations, Sections and Details
- Specialized Plan Views
- Integrated Drawing Interpretation Skills
- Interpret Commercial Drawings
- Shop Drawings from Commercial Drawings
- Advanced Free-Hand Sketching
- Computer Assisted Drafting (CAD) and Computer Assisted Manufacturing (CAM)

Stair and Industry Calculations

- Mechanical Advantage
- Takeoffs and Layout
- Job Costing
- Straight Flight Stair Calculations
- Multi Flight Stair Calculations
- Winder Stair Calculations
- Circular Stair Calculations
- Cutting Speeds

Level Four 8 weeks

Business Practices and Workplace Coaching Skills

- Principles of Advanced Joinery
- Marquetry, Parquetry, Intarsia Inlay and Special Veneer Matches
- Fire Retardant Materials and Practices
- Woodcarving
- Commercial Millwork
- Integrated CNC Procedures
- Handling, Shipping and Installation
- Custom Millwork Installation
- Job Roles and Responsibilities
- Contract Law
- Business Structures and Practices
- Large and Small Shop Practices
- Production Scheduling
- Machine Maintenance
- Workplace Coaching Skills
- Interprovincial Standards Red Seal Program

Wood Finishing

- Wood Finishing Applications
- Specialized Wood Finishing
- Refinishing Wood Surfaces

Drawing Interpretation and Shop Drawings

- Commercial Drawings with Architectural Elements
- Drawing Conflicts and Resolution
- Two Point Perspective Drawing
- Advanced Sketching
- Commercial Layouts
- Draw Shop Projects
- CAD Shop Drawings

Construction of Industry Project

- Construction of industry project

Job Costing and Material Estimating

- Job Costing
- Material Optimization
- Standard Estimating Methods
- Estimating for Large Projects
- Shipping Costs
- Rule of Thumb Costing